

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently amended) A method of providing location services (LCS), comprising:
 - receiving a request for location information for a mobile station;
 - ~~determining whether present location information for the mobile station is undesirable or desirable responsive to receiving the request;~~
 - performing location determination via a first set of at least one network entity to obtain ~~desirable~~ suitable location information for the mobile station responsive to the request for the location information when the present location information for the mobile station is unavailable or unsuitable ~~determined to be undesirable~~; and
 - performing location disclosure via a second set of at least one network entity to provide the ~~desirable~~ suitable location information for the mobile station responsive to the request for the location information, and skipping the location determination when the present location information for the mobile station is available and suitable ~~determined to be desirable~~.
2. (Previously presented) The method of claim 1, further comprising:
 - performing authentication and authorization for the location determination based on a first security procedure; and
 - performing authentication and authorization for the location disclosure based on a second security procedure.
3. (Original) The method of claim 2, wherein the first security procedure is based on an MD-5 algorithm and the second security procedure is based on an Authentication and Key Agreement (AKA) procedure.
4. (Original) The method of claim 1, further comprising:
 - performing a first session key setup to obtain a first session key, wherein the first session key is used for authentication and encryption of messages exchanged with the first set of at least one network entity; and

performing a second session key setup to obtain a second session key, wherein the second session key is used for authentication and encryption of messages exchanged with the second set of at least one network entity.

5. (Original) The method of claim 1, wherein the location determination and the location disclosure are performed in two separate LCS sessions.

6. (Original) The method of claim 1, further comprising:
caching the location information for the mobile station, and wherein the location disclosure is performed using the cached location information for the mobile station.

7. (Original) The method of claim 1, wherein the first set of at least one network entity is located in a serving network for the mobile station and the second set of at least one network entity is located in a home network for the mobile station.

8. (Original) The method of claim 1, wherein the location disclosure is performed by a location client and a location server.

9. (Original) The method of claim 8, wherein the second set of at least one network entity includes an LCS provider, and wherein the location client is located in the mobile station or the LCS provider.

10. (Original) The method of claim 8, wherein the second set of at least one network entity includes an LCS server, and wherein the location server is located in the mobile station or the LCS server.

11. (Original) The method of claim 1, wherein the first set of at least one network entity includes a position determining entity (PDE).

12. (Original) The method of claim 11, wherein the first set of at least one network entity further includes a serving mobile positioning center (SMPC).

13. (Original) The method of claim 11, wherein the first set of at least one network entity further includes a home authentication, authorization, and accounting entity (H-AAA).

14. (Original) The method of claim 1, wherein the second set of at least one network entity includes an LCS server.

15. (Original) The method of claim 14, wherein the second set of at least one network entity further includes a home authentication, authorization, and accounting (H-AAA) entity.

16. (Original) The method of claim 1, wherein the location information for the mobile station comprises a location estimate for the mobile station.

17. (Currently amended) The method of claim 16, wherein the location information for the mobile station further comprises an uncertainty for the location estimate for the mobile station.

18. (Currently amended) An apparatus comprising:
means for receiving a request for location information for a mobile station;
~~means for determining whether present location information for the mobile station is undesirable or desirable responsive to receiving the request;~~
means for performing location determination via a first set of at least one network entity to obtain ~~desirable~~ suitable location information for the mobile station responsive to the request for the location information when the present location information for the mobile station is unavailable or unsuitable ~~determined to be undesirable~~; and
means for performing location disclosure via a second set of at least one network entity to provide the ~~desirable~~ suitable location information for the mobile station responsive to the request for the location information, and skipping the location determination when the present location information for the mobile station is available and suitable ~~determined to be desirable~~.

19. (Previously presented) The apparatus of claim 18, further comprising:
means for performing authentication and authorization for the location determination based on a first security procedure; and
means for performing authentication and authorization for the location disclosure based on a second security procedure.

20. (Original) The apparatus of claim 18, further comprising:
means for performing a first session key setup to obtain a first session key, wherein the first session key is used for authentication and encryption of messages exchanged with the first set of at least one network entity; and
means for performing a second session key setup to obtain a second session key, wherein the second session key is used for authentication and encryption of messages exchanged with the second set of at least one network entity.

21. (Currently amended) The apparatus of claim 18, further comprising:
means for caching the location information for the mobile station, and wherein the location disclosure is performed using the cached location information for the mobile station.

22. (Currently amended) A wireless mobile station comprising:
a processor operative to:
receive a request for location information for the mobile station;
~~determine whether present location information for the mobile station is undesirable or desirable responsive to receiving the request;~~
perform a first function to obtain ~~desirable~~ suitable location information for the mobile station responsive to the request for the location information when the present location information for the mobile station is unavailable or unsuitable ~~determined to be undesirable~~, and
perform a second function to provide the ~~desirable~~ suitable location information for the mobile station responsive to the request for the location information, and skipping the first function to obtain the suitable location information when the present location information for the mobile station is available and suitable ~~determined to be desirable~~,

wherein the first function interacts with at least one peer first function located in a first set of at least one network entity to obtain the suitable location information, and wherein the second function interacts with at least one peer second function located in a second set of at least one network entity to provide the suitable location information.

23. (Currently amended) A program product embodied on a tangible storage medium, the program comprising executable instructions to:

- receive a request for location information for a mobile station;
- ~~determine whether present location information for the mobile station is undesirable or desirable responsive to receiving the request;~~
- perform a first function to obtain ~~desirable~~ suitable location information for the mobile station responsive to the request for the location information when the present location information for the mobile station is unavailable or unsuitable ~~determined to be undesirable~~, wherein the first function interacts with at least one peer first function located in a first set of at least one network entity to obtain the suitable location information; and
- perform a second function to provide the ~~desirable~~ suitable location information for the mobile station responsive to the request for the location information, and skipping the first function to obtain the suitable location information when the present location information for the mobile station is available and suitable ~~determined to be desirable~~, wherein the second function interacts with at least one peer second function located in a second set of at least one network entity to provide the suitable location information.

24. (Currently amended) A method of providing location services (LCS), comprising:

- receiving a request for location information for a mobile station;
- ~~determining whether present location information for the mobile station is undesirable or desirable responsive to receiving the request;~~
- performing location determination via a first LCS session to obtain ~~desirable~~ suitable location information for the mobile station responsive to a request for the location information when the present location information for the mobile station is unavailable or unsuitable ~~determined to be undesirable~~; and

performing location disclosure via a second LCS session to provide the ~~desirable~~ suitable location information for the mobile station responsive to the request for the location information, and skipping the location determination when the present location information for the mobile station is available and suitable~~determined to be desirable~~.

25. (Original) The method of claim 24, wherein the first and second LCS sessions are performed at different times.

26. (Original) The method of claim 24, further comprising:
performing authentication and authorization for the first LCS session based on a first security procedure; and
performing authentication and authorization for the second LCS session based on a second security procedure.

27. (Original) The method of claim 24, further comprising:
performing a first session key setup to obtain a first session key for use in the first LCS session; and
performing a second session key setup to obtain a second session key for use in the second LCS session.

28. (Original) The method of claim 24, further comprising:
providing a first call detail record (CDR) for the first LCS session; and
providing a second CDR for the second LCS session.

29. (Currently amended) An apparatus comprising:
means for receiving a request for location information for a mobile station;
~~means for determining whether present location information for the mobile station is undesirable or desirable responsive to receiving the request;~~
means for performing location determination via a first LCS session to obtain ~~desirable~~ suitable location information for the mobile station responsive to the request for the location information when the present location information for the mobile station is unavailable or unsuitable~~determined to be undesirable~~; and

means for performing location disclosure via a second LCS session to provide the ~~desirable~~ suitable location information for the mobile station responsive to the request for the location information, and skipping the location determination when the present location information for the mobile station is available and suitable~~determined to be desirable~~.

30. (Currently amended) A method of providing location services (LCS), comprising:

~~determining whether present location information for a mobile station is undesirable or desirable;~~

obtaining ~~desirable~~ suitable location information for the mobile station responsive to a first request for location information for the mobile station when the present location information for the mobile station is unavailable or unsuitable~~determined to be undesirable~~;

providing the ~~desirable~~ suitable location information to a first application responsive to the first request for the location information for the mobile station, and skipping the obtaining the suitable location information when the present location information for the mobile station is available and suitable~~determined to be desirable~~; and

providing the ~~desirable~~ suitable location information to a second application responsive to a second request for the location information for the mobile station, and skipping the obtaining the suitable location information when the present location information for the mobile station is available and suitable~~determined to be desirable~~.

31. (Original) The method of claim 30, wherein the location information is obtained by performing location determination once via one location determination session, and wherein the location information is provided to the first and second applications by performing location disclosure twice via two location disclosure sessions.

32. (Original) The method of claim 30, further comprising:
caching the location information in the mobile station or a network entity.

33. (Original) The method of claim 30, further comprising:
providing a first call detail record (CDR) for providing the location information to the first application; and

providing a second CDR for providing the location information to the second application.

34. (Original) The method of claim 30, wherein the first application is located in a first network and the second application is located in a second network.

35. (Currently amended) An apparatus comprising:

~~means for determining whether present location information for a mobile station is undesirable or desirable;~~

means for obtaining ~~desirable~~ suitable location information for the mobile station responsive to a first request for location information for the mobile station when the present location information for the mobile station is unavailable or unsuitable ~~determined to be undesirable;~~

means for providing the ~~desirable~~ suitable location information to a first application responsive to the first request for the location information for the mobile station, and skipping the obtaining the suitable location information when the present location information for the mobile station is available and suitable ~~determined to be desirable;~~ and

means for providing the ~~desirable~~ suitable location information to a second application responsive to a second request for the location information for the mobile station, and skipping the obtaining the suitable location information when the present location information for the mobile station is available and suitable ~~determined to be desirable.~~

36. (Currently amended) A method of providing location services (LCS), comprising:

receiving a request for location information for a mobile station;

~~determining whether present location information for the mobile station is undesirable or desirable responsive to receiving the request;~~

performing location determination via at least one network entity in a serving network to obtain ~~desirable~~ suitable location information for the mobile station responsive to a request for the location information when the present location information for the mobile station is unavailable or unsuitable ~~determined to be undesirable;~~ and

performing location disclosure via at least one network entity in a home network to provide the ~~desirable~~ suitable location information for the mobile station responsive to the request for the location information, and skipping the location determination when the present location information for the mobile station is available and suitable~~determined to be desirable~~.

37. (Original) The method of claim 36, further comprising:

performing a first session key setup to obtain a first session key, wherein the first session key is used for authentication and encryption of messages exchanged with the at least one network entity in the serving network; and

performing a second session key setup to obtain a second session key, wherein the second session key is used for authentication and encryption of messages exchanged with the at least one network entity in the home network.

38. (Original) The method of claim 36, wherein the at least one network entity in the serving network includes a serving mobile positioning center (SMPC), the method further comprising:

determining an Internet Protocol (IP) address of the SMPC.

39. (Original) The method of claim 38, wherein the IP address of the SMPC is determined using a fully qualified domain name for the SMPC.

40. (Original) The method of claim 38, wherein the location disclosure is performed via the SMPC.

41. (Original) The method of claim 36, further comprising:

sending a message to the mobile station to trigger the mobile station to initiate a LCS session for performing location determination.

42. (Original) The method of claim 36, further comprising:

caching the location information in the mobile station, a network entity in the serving network, a network entity in the home network, or a combination thereof.

43. (Currently amended) An apparatus comprising:
means for receiving a request for location information for a mobile station;
~~means for determining whether present location information for the mobile station is~~
~~undesirable or desirable responsive to receiving the request;~~
means for performing location determination via at least one network entity in a
serving network to obtain ~~desirable~~ suitable location information for the mobile station
responsive to a request for the location information when the present location information for
the mobile station is unavailable or unsuitable~~determined to be undesirable~~; and
means for performing location disclosure via at least one network entity in a home
network to provide the ~~desirable~~ suitable location information for the mobile station
responsive to the request for the location information, and skipping the location
determination when the present location information for the mobile station is available and
suitable~~determined to be desirable~~.

44. (New) A method of providing location services (LCS), comprising:
receiving a request for location disclosure;
authenticating and authorizing the request using a secure disclosure session;
determining whether cached location information is available;
if the cached location information is available, responding to the request for location
disclosure with the location information in the secure disclosure session;
if the cached location information is not available, initiating a request for location
determination;
establishing a secure determination session, independent of the secure disclosure
session; and
communicating location information within the secure determination session.

45. (New) The method of claim 44, wherein authenticating and authorizing the
request comprises:
receiving a request for a secure disclosure session key; and
providing the secure disclosure session key in response to successful authentication
and validation of the request for the secure session key.